

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A substrate carrier that is capable of receiving a vacuum, and holds a substrate from a backside of the substrate during processing of the substrate, such that when a solution is disposed on a front side of the substrate, the solution is prevented from reaching an inner region of a base and a backside inner region of the substrate, the substrate carrier comprising:

the base for placing the substrate thereon;

a vacuum inlet disposed within the inner region of the base, the vacuum inlet connectable to the vacuum to allow hold the backside of the substrate to be held on the base;

a sealing member disposed on the base and defining the inner region of the base, the sealing member adapted to contact the backside of the substrate to thereby establish the backside inner region of the substrate, and assist in preventing the solution from reaching the backside inner region of the substrate and the inner region of the base during the processing of the substrate; and

a sealing mechanism disposed outside of the sealing member, the sealing mechanism includes another sealing member, the another sealing member disposed outside of and around the sealing member and adapted to contact the backside of the substrate and thereby assist in preventing the solution from reaching the backside inner region of the substrate adapted to assist in preventing the solution from reaching the backside inner region of the substrate during the processing of the substrate.

2. — The substrate carrier according to claim 1 wherein the sealing mechanism includes at least one opening disposed outside of and around the sealing member, the opening connectable to a fluid source that emits a gaseous fluid from the opening toward a peripheral back portion of

~~the substrate, thereby assisting in preventing the solution from reaching the backside inner region of the substrate.~~

3. — ~~The substrate carrier according to claim 2 wherein the sealing member is made of an elastomer and is one of an o-ring and an inflatable membrane.~~
4. — ~~The substrate carrier according to claim 2 wherein the at least one opening is a second plurality of holes disposed concentrically around the sealing member.~~
5. — ~~The substrate carrier according to claim 4 wherein a diameter of each of the second plurality of holes is in a range of 0.5-1 mm.~~
6. — ~~The substrate carrier according to claim 2, wherein the fluid source emits the gaseous fluid at a flow rate of 10-60 liters per minute.~~
7. — ~~The substrate according to claim 2 wherein the fluid source emits the gaseous fluid during the processing of the substrate, and does not emit the gaseous fluid during a subsequent processing of the substrate.~~
8. — ~~The substrate carrier according to claim 1 wherein the sealing mechanism includes another sealing member, the another sealing member disposed outside of and around the sealing member and adapted to contact the backside of the substrate and thereby assist in preventing the solution from reaching the backside inner region of the substrate.~~
9. (currently amended) The substrate carrier according to claim 8 1 wherein the another sealing member is an inflatable sealing member.
10. (original) The substrate carrier according to claim 9 wherein the inflatable sealing member is inflated during the processing of the substrate, and is not inflated during a subsequent processing of the substrate.

11. (original) The substrate carrier according to claim 9 wherein the inflatable sealing member is inflated by a gas that is provided through a second plurality of holes that are formed in the base.
12. (original) The substrate carrier according to claim 8 wherein the another sealing member is an o-ring.
13. (original) The substrate carrier according to claim 12 wherein the sealing member is a hollow o-ring.
14. (original) The substrate carrier according to claim 13 wherein both the sealing member and the another sealing member are made from an elastomer material.
15. (original) The substrate carrier according to claim 14 wherein the another sealing member is a hollow o-ring.
16. (original) The substrate carrier according to claim 13 wherein the hollow o-ring has a durometer rating of less than 50.
17. (currently amended) The substrate carrier according to claim 12 1 wherein the another o-ring is disposed in a substantially perpendicular vertically movable annular housing that is adapted to position the another o-ring in a seal position and an unsealed position.

Claims 18-38 (canceled)

39. (new) A substrate carrier for holding a backside of a wafer for processing using a solution, comprising:
a base configured to receive the backside of the wafer;

a permanent seal coupled to a first circumference of the base and configured to seal a first circumferential area from the solution;

a removable seal coupled to a second circumference of the base and configured to seal a second circumferential area from the solution; and

a vacuum inlet disposed within the first circumferential area configured to receive vacuum for holding the backside of the wafer against the base to seal the backside of the wafer during the processing.

40. (new) The substrate carrier of claim 39 further comprising a seal inlet coupled to the removable seal and configured to a receive fluid to selectively apply the removable seal.

41. (new) The substrate carrier of claim 40, wherein the removable seal includes an inflatable membrane.

42. (new) The substrate carrier of claim 41, wherein the seal inlet receives the fluid to selectively inflate the inflatable membrane to seal the backside of the wafer.

43. (new) The substrate carrier of claim 42, wherein the fluid is air supply.

44. (new) The substrate carrier of claim 39 further comprising a support pad coupled to the base configured to brace the backside of the wafer wherein the vacuum inlet extends through the support pad.

45. (new) The substrate carrier of claim 39 further comprising a gimbal mechanism.

46. (new) The substrate carrier of claim 39, wherein the base includes a carrier ring configured to define a recess to receive the wafer.

47. (new) The substrate carrier of claim 39 further comprising a carrier shaft movably coupled to a motor configured to rotate the substrate carrier.

48. (new) The substrate carrier of claim 47, wherein the motor is configured to translate the substrate carrier along a vertical axis or a lateral axis.

49. (new) The substrate carrier of claim 39, wherein the permanent seal comprises an o-ring.

50. (new) The substrate carrier of claim 39, wherein the removable seal includes an annular housing having a groove configured to receive an o-ring, the annular housing movably coupled to the base.

51. (new) The substrate carrier of claim 50, wherein the annular housing is configured to slide along a certain vertical circumference of the base for selectively sealing the second circumferential area.

52. (new) A system for processing a substrate having a frontside and a backside, the system comprising:

a process chamber configured to receive a solution and process the frontside of the substrate, the process chamber having an electrode and contacts to supply power to the electrode and the frontside of the substrate; and

a substrate carrier configured to hold the backside of the substrate, including:

a base configured to receive the backside of the substrate;

a permanent seal coupled to a first circumference of the base and configured to seal a first circumferential area;

a removable seal coupled to a second circumference of the base and configured to seal a second circumferential area; and

a vacuum inlet disposed within the first circumferential area configured to receive vacuum for holding and sealing the backside of the substrate.

53. (new) The system for processing the substrate according to claim 52, wherein the process includes electrochemical deposition of material to the frontside of the substrate.

54. (new) The system for processing the substrate according to claim 53 further comprising a pad configured between the frontside of the substrate and the processing chamber wherein the process includes electrochemical mechanical deposition of material to the frontside of the substrate using the pad.

55. (new) The system for processing the substrate according to claim 52, wherein the process includes electrochemical polish of material from the frontside of the substrate.

56. (new) The system for processing the substrate according to claim 55 further comprising a pad configured between the frontside of the substrate and the processing chamber wherein the process includes electrochemical mechanical polish of material from the frontside of the substrate using the pad.